REVISION TEST
CLASS XI
CHEMISTRY

Q1. What is meant by law of constant proportion?

Q2. Define atomic mass unit.

Q3. Name the series of lines in emission spectrum of hydrogen that is obtained due to electronic transition from outer orbits to second orbit.

Q4. Calculate the radius of Bohr's fifth orbit for hydrogen atom

Q5. Calculate the number of moles of H_2SO_4 present in 4.9g of H_2SO_4.

Q6. Out of molarity and mole fraction which one is a better method to express concentration and why?

Q7. Give two important observations of Rutherford's experiment and the conclusions drawn from these.

Q8. What is the number of photons of light with a wavelength of 4000pm that provide 1J of energy?

Q9. Explain the terms:

a) Work function b) Threshold frequency

Q10. The mass of an electron is 9.1×10^{-31} kg. If its K.E is 3.0×10^{-25}J, calculate its wavelength

Q11. 10g of H_2 (g) and 50g of O_2 (g) are mixed to produce H_2O(g). Calculate the amount of H_2O and the amount of unreacted reagent.

Q12. Calculate the concentration of nitric acid in moles per litre in a sample which has a density1.41 g/ml and the mass percent of nitric acid in it being 69%.

Q13. In photoelectric effect experiment irradiation of a metal with light of frequency $5 \times 10^{20}s^{-1}$ gives electrons with a K.E. = 6.63×10^{-14}J. Calculate the threshold frequency for the metal.

Q14. Calculate the mole fraction of each component in a solution having 25% water, 25% CH_3COOH and 50% C_2H_5OH.

Q15. The density of 3M solution of NaCl is 1.25g/ml.Calculate molality of the solution.(At mass Na =23u;Cl=35.5)

Q16. (i)Determine the molecular formula of a compound which contains 29.1% Na , 40.5% S and 30.4% O and has a molecular mass of 158u. (At. mass: Na=23u, S=32u, O=16u).

(ii)Concentration of glucose ($C_6H_{12}O_6$) in normal blood is 90mg per 100 ml. What is the molarity of the glucose solution in blood?

Q17. (i)Calculate the wavenumber for the longest wavelength transition in the Balmer series of atomic hydrogen.

(ii)Give two important differences between emission spectra and absorption spectra.